NOMENCLATURAL NOTES FOR THE NORTH AMERICAN FLORA, X.

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ABSTRACT

The nomenclature of Ceratotheca triloba (Bernh.) E. Mey. ex Hook. f., Linaria vulgaris Miller, Pediomelum digitatum (Nutt. ex Torr. & Gray) Isely, P. hypogaeum (Nutt. ex Torr. & Gray) Rydb. var. scaposum (A. Gray) Mahler, P. hypogaeum var. subulatum (Bush) Grimes, P. pentaphyllum (L.) Rydb., Symplocarpus R.A. Salisbury ex Nutt., and S. foetidus Nutt. is discussed. Six new combinations are proposed: Draba arctica Vahl ssp. ostenfeldii (Ekm.) Kartesz & Gandhi and var. ostenfeldii (Ekm.) Kartesz & Gandhi; Ipomopsis congesta (Hook.) V. Grant ssp. nevadensis (Tidestrom) Kartesz & Gandhi; Penstemon crandallii A. Nels. ssp. taosensis (Keck) Kartesz & Gandhi; Physalis subulata Rydb. var. neomexicana (Rydb.) Waterfall ex Kartesz & Gandhi; and Senna artemisioides (Gaudichaud ex A.DC.) Kartesz & Gandhi. Cardamine bulbosa (Schreb. ex Muhl.) B.S.P., Carissa macrocarpa (Eckl.) A. DC., Evolvulus arizonicus A. Gray, and Kalanchoe marmorata Baker are recognized in place of Cardamine rhomboidea (Pers.) DC., Carissa grandiflora (E. Mey.) A. DC., E. laetus A. Gray, and K. grandiflora A. Rich., respectively. The quadrinomial Lupinus parviflorus Nutt. ex Hook. & Arn. ssp. myrianthus (E. Greene) Harmon var. myrianthus is treated as two trinomials: L. parviflorus ssp. myrianthus (E. Greene) Harmon and Lupinus parviflorus var. myrianthus (E. Greene) Harmon.

KEY WORDS: Apocynaceae, Araceae, Brassicaceae, Convolvulaceae, Crassulaceae, Fabaceae, Pedaliaceae, Polemoniaceae, Scrophulariaceae, Solanaceae, Cardamine, Carissa, Ceratotheca, Draba, Evolvulus, Ipomopsis, Kalanchoe, Linaria, Lupinus, Pediomelum, Penstemon, Physalis, Senna, Symplocarpus

INTRODUCTION

Continuing with the "NOMENCLATURAL NOTES FOR THE NORTH AMERICAN FLORA" (Kartesz & Gandhi 1989, 1990a, b, c, 1991a, b, c, d, 1992), a tenth note in the series is presented here toward advancing our understanding of North American plant names.

APOCYNACEAE Carissa macrocarpa

The amatungulu, a coastal shrub of South Africa, belonging to the genus Carissa L., has become established in some areas of southern Florida. Palmer & Pitman (1972, p. 1901) and Retief (in Gibbs Russell et al. 1987, p. 152) assigned the name C. macrocarpa (Eckl.) A. DC. (based on Arduina macrocarpa Eckl.; published in 1830) to amatungulu, whereas Rosatti (J. Arnold Arbor. 70:346. 1989.) used the name C. grandiflora (E. Mey.) A. DC. (based on A. grandiflora E. Mey; published in 1836). Although Rosatti cited Palmer & Pitman's usage of the name C. macrocarpa, he provided no reason for accepting C. grandiflora. Based on priority, we assert that C. macrocarpa is the correct name to be used.

Carissa macrocarpa (Eckl.) A. DC., Prodr. 8:336. 1844. BASIONYM: Arduina macrocarpa Eckl., S. African Quart. J. 1:372. 1830.

Arduina grandiflora E. Mey., Comm. Pl. Afr. Austr. 191. 1836. Carissa grandiflora (E. Mey.) A. DC., Prodr. 8:335. 1844.

ARACEAE Symplocarpus foetidus

Regarding the usage of the conserved generic name Symplocarpus R.A. Salisbury ex Nuttall, Gen. N. Amer. 1:105. Jul 1818. (fide Stafleu 1978, p. 305), Mabberley (Taxon 29:601. 1980.) amended the author and bibliographic citation: "[Salisb. ex] Barton, Med. Bot. 1:124. 1817." We agree with Mabberley regarding the correct bibliographic citation, but disagree with his author citation. Our discussion follows on the authorship of the generic name and on the combination S. foetidus.

On p. 123, W. Barton introduced the combination Symplocarpus foetidus, ascribed it to Salisbury, and cited numerous references (pp. 123-124), including "Lin. Sp. Pl. p. 1372" (which refers to the basionym Dracontium foetidum

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L.) and "Nuttall, Gen. Am. plants, p. 105." Since W. Barton mentioned the correct page number from Nuttall's work seven months prior to its publication, we assume that W. Barton had access to page proof of Nuttall's manuscript. Moreover, of the many references cited by W. Barton, Nuttall alone used the combination S. foetidus.

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On p. 124, W. Barton treated the genus Symplocarpus, ascribed the generic name to Salisbury, and provided Nuttall's Latin diagnosis (copied verbatim from Nuttall's manuscript), which was followed by a description of its reproductive parts, copied from his uncle B. Barton (Fl. Virginica). We consider that Nuttall's generic diagnosis is fundamental in validating the generic name. Benjamin Barton's description of it must be considered of secondary importance. Since Nuttall ascribed the generic name Symplocarpus to Salisbury, the complete author citation is: R.A. Salisbury ex Nuttall. In personal communication, both D. Nicolson (US) and S. Thompson (CM) concurred with this authorship.

The authorship of Symplocarpus foetidus is more complicated. On p. 124, W. Barton provided an elaborate treatment of S. foetidus. He mentioned the six word description of Michaux (given under the name Pothos foetida [L.] Ait.) along with a detailed description quoted verbatim from Nuttall. However, a formal description was unnecessary for the validation of the name S. foetidus. For this reason, Nicolson and Thompson (pers. comm.) attributed the combination to: R.A. Salisbury ex W. Barton. However, we do not accept their conclusion for the following reasons.

Although W. Barton ascribed both the generic and specific names to Salisbury, W. Barton admitted (p. 126) that he had not seen Salisbury's work and that he relied on Nuttall for the names. Had Barton not referenced Nuttall in the protologue of Symplocarpus foetidus, then W. Barton would be credited as the correct author for the species. However, that was not the case. First, W. Barton relied upon Nuttall for the generic and specific names in discussion (i.e., Symplocarpus and S. foetidus); second, he had access to galley proof of Nuttall's work; and third, he copied Nuttall's description. Therefore, we assert that W. Barton inadvertently published the combination for Nuttall; thus, Nuttall must be credited for the authorship of the specific name. Since Nuttall did not ascribe the combination to anyone else, he alone is the combining author.

Symplocarpus R.A. Salisbury ex Nuttall in Barton, Med. Bot. 1:124. 1817.

Symplocarpus foetidus (L.) Nuttall in Barton, Med. Bot. 1:124. Dec 1817.

BRASSICACEAE

Cardamine bulbosa and C. rhomboidea

Presently, Cardamine bulbosa (Schreb. ex Muhl.) B.S.P. and C. rhomboidea (Pers.) DC. are considered to be conspecific. Al-Shehbaz (1988, p. 94) accepted the name C. rhomboidea for this complex and cited "Arabis rhomboidea Pers., A. bulbosa Schreber ex Muhl. (nomen nudum), C. bulbosa (Schreber ex Muhl.) BSP." as synonyms. Regarding the nomenclature for these two epithets, our analysis follows.

Merrill & Hu (1949, pp. 42-43) discussed the nomenclature of Arabis bulbosa, but they were uncertain regarding its validity in Muhlenberg's work (Trans. Amer. Philos. Soc. 3:174, 1793.). Although Muhlenberg provided no description for A. bulbosa, he cited the following reference: "Clayton 99, n. 45." This citation refers to Clayton's composite work: Gronovius' Flora Virginica, ed. 2, which was based primarily on Clayton's collections as indicated on the title page. On p. 99, Gronovius described six Arabis species, one of which was based on Clayton's collection (no. 45). Since Gronovius used polynomials (e.g., "Arabis foliis ovatis denticulatis glabris" on p. 99), names in his work are considered as invalidly published (Greuter 1988, ICBN Art. 23.6c); albeit, his descriptions (e.g., "Hesperis flore specioso albo, ... siliqua longa tenui. Tota planta Cochleariae sapore praedita." for Clayton's plant) were effectively published. Since Muhlenberg cited a direct reference to an effectively published description, he indeed met the requirements for valid publication (ICBN Arts. 32.1c, 32.3, and 32.4). Therefore, the name A. bulbosa was validly published by Muhlenberg in 1793 and has priority over the name A. rhomboidea.

Cardamine bulbosa (Schreb. ex Muhl.) B.S.P., Pre. Cat. 4. 1888. BA-SIONYM: Arabis bulbosa Schreb. ex Muhl., Trans. Amer. Philos. Soc. 3:174. 1793. HOLOTYPE: U.S.A. Virginia: Clayton 45 (BM).

Arabis rhomboidea Pers., Syn. Pl. 2:204. Nov 1806. Cardamine rhomboidea (Pers.) DC., Syst. Nat. 2:246. 1821.

Draba arctica ssp. ostenfeldii and var. ostenfeldii

Bocher (Biol. Skr. 14(7):19. 1966.) proposed the following combination: Draba arctica Vahl ssp. ostenfeldii (Ekm.) Bocher. Under ssp. ostenfeldii, he (p. 28) recognized two varieties: var. ostenfeldii (without an author) and var. oviboviana Ekm. However, for his new subspecific combination, Bocher failed to provide complete bibliographical particulars of the basionym as required by ICBN Art. 32.3. Hence, Bocher's two combinations remain invalidly published. Since we follow Bocher's treatment of this complex, we simultaneously validate Bocher's usage of subspecific and varietal names below (as allowed by ICBN Art. 34.3).

Draba arctica Vahl ssp. ostenfeldii (Ekm.) Bocher ex Kartesz & Gandhi and var. ostenfeldii (Ekm.) Bocher ex Kartesz & Gandhi, ssp. et var. comb. nov. BASIONYM: Draba ostenfeldii Ekm., Sv. Bot. Tidskr. 23:491. 1929.

Note: Dr. Ekman cited several specimens. To the best of our knowledge, no lectotype has been designated.

CONVOLVULACEAE

Evolvulus arizonicus

Austin (Sida 14:278. 1990.) used the name Evolvulus laetus A. Gray (Proc. Amer. Acad. Arts 17:228. 1882.) and cited E. arizonicus A. Gray ("Syn. Fl. N. Amer. 2, 1:218. 1886.") as a synonym. Prior to Austin's publication, E. arizonicus was the accepted name for this taxon. Gray's "Syn. Fl. N. Amer. vol. 2(1)" was first issued in 1878 and was reissued in 1886 as a second edition, under the title The Gamopetalae (Stafleu & Cowan 1976, p. 992). The name E. arizonicus was validly published in the first edition (i.e., in 1878), and thus has priority over the name E. laetus.

We communicated our finding to Mr. Barney Lipscomb (editor of Sida), who in turn communicated this information to Austin (for the purpose of providing accurate nomenclature within that journal). Based on our finding, Austin (Sida 14:447. 1991.) correctly cited the date of publication of Evolvulus arizonicus and reinstated it in place of E. laetus.

Evolvulus arizonicus A. Gray, Syn. Fl. N. Amer. 2(1):218. 1878.

Evolvulus laetus A. Gray, Proc. Amer. Acad. Arts 17:228. 1882.

CRASSULACEAE Kalanchoe marmorata

For the plants commonly referred to as lifeplant, Austin & McJunkin (J. Arnold Arbor. 59:62. 1978.) used the name Kalanchoe grandiflora A. Rich. (published in 1847-48). Unfortunately, these authors failed to realize that Richard's name is a later homonym of K. grandiflora Wall. ex Wight & Arn. (published in 1839). Since K. grandiflora A. Rich. is an illegitimate name, it is replaced by K. marmorata Baker (published in 1892).

Kalanchoe marmorata Baker, Gard. Chron. 2:300. 1892.

Kalanchoe grandiflora A. Rich., Tent. Fl. Abyss. 1:310. 1847-48, non Wall. ex Wight & Arn. 1839.

FABACEAE

Lupinus parviflorus ssp. myrianthus and var. myrianthus

Following Kartesz & Gandhi (1991e), the quadrinomial Lupinus parviflorus Nutt. ex Hook. & Arn. ssp. myrianthus (E. Greene) Harmon var. myrianthus is recognized with two trinomials as given below.

Lupinus parviflorus Nutt. ex Hook. & Arn. ssp. myrianthus (E. Greene) Harmon and var. myrianthus (E. Greene) Harmon, Trans. Missouri Acad. Sci. 6:161. 1973. BASIONYM: Lupinus myrianthus E. Greene, Pittonia 4:134. 1900.

Pediomelum

Grimes (1990) made many new combinations in *Pediomelum* Rydb. Unfortunately, three of those names were made prior to 1990 by other authors. Since Grimes based his new combinations on the same types used by previous authors, his new combinations "P. digitatum (Nutt. ex Torr. & Gray) Grimes," "P. hypogaeum (Nutt. ex Torr. & Gray) Rydb. var. scaposum (Gray) Grimes," and "P. pentaphyllum (L.) Grimes" must be treated as isonyms (neither as superfluous names nor as later homonyms; Nicolson 1975). Additional discussion is provided below, under the respective pediomelums.

Pediomelum digitatum (Nutt. ex Torr. & Gray) Isely, Sida 11:430. 1986; Grimes, Mem. New York Bot. Gard. 61:71. 1990. BASIONYM: Psoralea digitata Nutt. ex Torr. & Gray, 1:300. 1841.

Note: Although Isely made the above combination in 1986, he (1990, p. 129) apparently overlooked his own combination and attributed it to Grimes. Isely's attribution to Grimes must be treated as a bibliographical error. For his "new combination," Grimes cited *Pediomelum digitatum* var. parvifolium (Shinners) Gandhi & L.E. Brown as a synonym. The preceding trinomial should have alerted Grimes to the fact that prior to his 1990 work, the use of the binomial *Pediomelum digitatum* was indeed established.

Pediomelum hypogaeum (Nutt. ex Torr. & Gray) Rydb. var. scaposum (A. Gray) Mahler, Sida 12:250-251. 1987; Grimes, Mem. New York Bot. Gard. 61:76. 1990. BASIONYM: Psoralea hypogaea Nutt. ex Torr. & Gray var. scaposa A. Gray, Boston J. Nat. Hist. 6:173. 1850.

Pediomelum hypogaeum var. subulatum

Grimes (1990, p. 76) transferred Pediomelum subulatum (Bush) Rydb. (based on Psoralea subulata Bush) to Pediomelum hypogaeum (Nutt. ex Torr. & Gray) Rydb. at varietal rank and made the combination Pediomelum hypogaeum var. subulatum (Bush) Grimes. He cited Psoralea subulata var. minor Shinners as a synonym. Superficially, some workers may believe that Grimes erred in choosing the epithet subulata over the epithet minor, since the latter existed as a varietal name, and since a name has priority only within its own rank (ICBN Art. 60.1). However, we assert that Grimes was correct in his treatment, and that any confusion of the nomenclature may be attributed to an absence of a discussion of the nomenclature of this taxon and to the incomplete citation of basionym details within Grime's treatment. A discussion is provided here.

When Shinners (Field & Lab. 19:23. 1951.) proposed Psoralea subulata var. minor, he automatically created P. subulata var. subulata (ICBN Art. 26.2). If these two varieties represent a single taxon, then the autonym (var. subulata) has priority over var. minor (ICBN Art. 57.3).

Pediomelum hypogaeum (Nutt. ex Torr. & Gray) Rydb. var. subulatum (Bush) Grimes, Mem. New York Bot. Gard. 61:76. 1990. BASIONYM: Psoralea subulata Bush (Annual Rep. Missouri Bot. Gard. 17:120. 1906.) var. subulata (automatically created by Psoralea subulata Bush var. minor Shinners).

Psoralea subulata Bush var. minor Shinners, Field & Lab. 19:23. 1951.

Pediomelum pentaphyllum (L.) Rydb., N. Amer. Fl. 24:23. 1919, as to the type, but not as to the description; Grimes, Mem. New York Bot. Gard. 61:82. 1990. BASIONYM: Psoralea pentaphylla L., Sp. Pl. 764. 1753.

Note: Since Rydberg's description for *Pediomelum pentaphyllum* applied to a decumbent pediomelum (endemic to México), and since the type of its basionym (*Psoralea pentaphylla*) applied to the acaulescent species of *Pediomelum* found in sw United States (se Arizona, sw New Mexico, Trans-Pecos area of Texas) and adjacent México (Ockendon 1965), Grimes perhaps believed that *Pediomelum pentaphyllum* (L.) Rydb. was invalidly published. Grimes (pp. 82-83), therefore proposed "*Pediomelum pentaphyllum* (L.) Grimes."

It is unfortunate that Grimes failed to realize the following. On the transference of *Psoralea pentaphylla* to *Pediomelum* by Rydberg, the resultant combination, *Pediomelum pentaphyllum*, must be retained for the species to which the type of *Psoralea pentaphylla* belongs, and that *Pediomelum pentaphyllum*

must be attributed to Rydberg, even though Rydberg applied his combination erroneously to a Mexican species (ICBN Art. 55.2).

Senna artemisioides

The Australian legume, Cassia artemisioides Gaudichaud ex A. DC., has become established as a weed in Arizona and California (Isely 1975, p. 64). In their generic treatments of American Cassinae (Cassia L., Chamaecrista Moench, and Senna P. Mill.), Irwin & Barneby (1982) did not include this Australian legume. Based on its characteristics (e.g., fertile stamens 10 with terminal poricidal dehiscence; absence of bracteoles), we assign this legume to Senna and propose the following combination.

Senna artemisioides (Gaudichaud ex A. DC.) Kartesz & Gandhi, comb. nov. BASIONYM: Cassia artemisioides Gaudichaud ex A. DC., Prodr. 2:495. 1825. TYPE: Gaudichaud (P).

PEDALIACEAE Ceratotheca triloba

Ceratotheca triloba, a south African native, has become naturalized in se U.S.A. This binomial has been attributed to E. Meyer (Soil Conservation Service 1982, p. 262); to E. Meyer ex Bernh. (Stapf in Dyer 1904); to Bernh. (Jackson 1895); and to (Bernh.) Hook. f. (Abels 1975, p. 199; Welman in Gibbs Russell et al. 1987, p. 187). Our analysis follows.

Bernhardi (Linnaea 16:41. 1842.) proposed Sporledera as a segregate genus from Ceratotheca Endl. and proposed S. triloba as a sp. nov. Although Sporledera Bernh. is a later homonym of Sporledera Hampe 1837, and thus illegitimate, the binomial S. triloba Bernh. must be considered for purpose of priority (ICBN Art. 68.1). In its protologue, Bernhardi cited C. triloba E. Mey., a manuscript name, as a synonym. At that stage, the correct authorship of C. triloba was: E. Mey. ex Bernh., pro syn. (ICBN Rec. 50A.1, Ex. 1). In their treatment of the genus Ceratotheca, Bentham & Hooker (Gen. Pl. 2:1059. 1876.) mentioned the name S. triloba, but did not make the combination; hence, they did not validate the name C. triloba (ICBN Art. 33 Ex. 2). Apparently, Hooker (Bot. Mag. 114: t. 6974. 1888.) was the first to validate the combination C. triloba and he ascribed the name to E. Mey.

Ceratotheca triloba (Bernh.) E. Mey. ex Hook. f., Bot. Mag. 114: t. 6974. 1888. BASIONYM: Sporledera triloba Bernh., Linnaea 16:42. 1842.

POLEMONIACEAE

Ipomopsis congesta ssp. nevadensis

Cronquist (in Cronquist et al. 1984, p. 128), who recognized Gilia nevadensis Tidestrom at specific rank, remarked that Tidestrom's plant appeared to be a compact expression of G. congesta Hook. ssp. palmifrons A. Brand, and deserved to be treated as an infraspecific taxon of G. congesta. Kartesz (1988, pp. 961-963) recognized the genus Ipomopsis Michx. as distinct from the genus Gilia Ruiz & Pavon and treated Tidestrom's plant at subspecific rank within Ipomopsis congesta (Hook.) V. Grant. He remarked that ssp. nevadensis represented a unique expression within the I. congesta complex. Kartesz's treatment is maintained here. Since the combination I. congesta ssp. nevadensis needs validation, it is formally proposed below.

Ipomopsis congesta (Hook.) V. Grant ssp. nevadensis (Tidestrom) Kartesz & Gandhi, comb. et stat. nov. BASIONYM: Gilia nevadensis Tidestrom, Proc. Biol. Soc. Wash. 38:15. 1925. TYPE: U.S.A. Nevada: Toiyabe Natl. Forest, Bunker Hill, A. Hitchcock 865 (?).

SCROPHULARIACEAE

Linaria vulgaris

Linaria vulgaris (toadflax), an Eurasian native, has become naturalized in temperate North America. Chater et al. (in Tutin et al. 1972, p. 232) and Dorn (1988, p. 282) attributed the name to Miller (Gard. Dict., ed. 8. Linaria no. 1. 1768), whereas Holmgren (in Cronquist et al. 1984, p. 460) attributed the name to Hill. Our analysis follows.

Hill (Brit. Herb. 108. 1756) based Linaria vulgaris on Antirrhinum linaria L. However, he did not use the Linnaean system of binary nomenclature in this work. Whatever "binomials" may be found within that work are not true binomials, but mere descriptive phrases reduced to two words (see ICBN Art. 23.6c, Ex. 9). Therefore, the name L. vulgaris was not validly published in Hill's work. Apparently, unaware of this fact, Holmgren (l.c.) erroneously used Hill as the author. To the best of our knowledge, Miller was the first to validate the name L. vulgaris.

Linaria vulgaris [Hill, Brit. Herb. 108. 1756, nom. invalida]; Mill., Gard. Dict., ed. 8. Linaria no. 1. 1768.

Antirrhinum linaria L., Sp. Pl. 616. 1753. Linaria linaria (L.) Karsten, Deutsche Fl. 947. 1882 (Tautonym).

Penstemon crandallii ssp. taosensis

We concur with Nisbet & Jackson (Univ. Kansas Sci. Bull. 41(5):726. 1960.) on their transfer of *Penstemon linarioides* A. Gray ssp. *taosensis* Keck to *P. crandallii* A. Nels. at infraspecific rank. However, we do not follow their varietal recognition of Keck's taxon and reinstate its subspecific rank.

Penstemon crandallii A. Nels. ssp. taosensis (Keck) Kartesz & Gandhi, comb. et stat. nov. BASIONYM: Penstemon linarioides A. Gray ssp. taosensis Keck, Bull. Torrey Bot. Club 64:373. 1937. Penstemon crandallii A. Nels. var. taosensis (Keck) Nisbet & R.C. Jackson, Univ. Kansas Sci. Bull. 41(5):726. 1960. TYPE: U.S.A. New Mexico: Taos Co., 30 Jul 1932, Nelson & Ruth 158 (UC).

SOLANACEAE

Physalis subulata var. neomexicana

Waterfall (in Correll & Johnston 1970, p. 1392) proposed the combination Physalis subulata Rydb. var. neomexicana (Rydb.) Waterfall and cited the basionym. Unfortunately, Waterfall failed to provide the complete bibliography of the basionym, and thus did not meet the requirements for validation of a new combination (ICBN Art. 33.2). Prior to proposing the preceding combination, Waterfall (Rhodora 60:168-169. 1958.) treated Rydberg's plant as a variety of P. foetens Poir. and lectotypified Rydberg's binomial. We accept Waterfall's 1970 treatment and provide the bibliography of the basionym to validate the combination.

Physalis subulata Rydb. var. neomexicana (Rydb.) Waterfall ex Kartesz & Gandhi, comb. nov. BASIONYM: Physalis neomexicana Rydb., Mem. Torrey Bot. Club 4:325. 1896. Physalis foetens Poir. var. neomexicana (Rydb.) Waterfall, Rhodora 60:168. 1958. LECTOTYPE (vide Waterfall, Rhodora 60:168-169. 1958.): Fendler 678 (GH).

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REFERENCES

- Abels, J. 1975. Die Gattungen Ceratotheca Endl. und Dicerocaryum Boj. Mem. Soc. Broteriana 25:1-358.
- Al-Shehbaz, I.A. 1988. The genera of Arabideae (Cruciferae: Brassicaceae) in the southeastern United States. J. Arnold Arbor. 69:85-166.
- Correll, D.S. & M.C. Johnston. 1970. Manual of the Vascular Plants of Texas. Texas Research Foundation, Renner, Texas.
- Cronquist, A., et al. 1984. Intermountain Flora, Vol. 4: Subclass Asteridae (except Asteraceae). The New York Botanical Garden, Bronx, New York.
- Dorn, R.D. 1988. Vascular Plants of Wyoming. Mountain West Publishing, Box 1471, Cheyenne, Wyoming.
- Dyer, W.T. 1904. Flora Capensis, vol. 4(2). Lovell Reeve & Co., Ltd., Covent Garden, London, U.K.
- Gibbs Russell, G.E., et al. 1987. List of Species of Southern African Plants, ed. 2, part 2: Dicotyledons. Botanical Research Institute, Dept. of Agr. & Water Supply, South Africa.
- Greuter, W. (Ch. Ed. Comm.). 1988. International Code of Botanical Nomenclature. Adopted by the Fourteenth International Botanical Congress, Berlin, Jul-Aug 1987. Regnum Veg. 118.
- Grimes, J.W. 1990. A revision of the New World species of Psoraleeae (Leguminosae: Papilionoideae). Mem. New York Bot. Gard. 61:1-113.
- Irwin, H.S. & R.C. Barneby. 1982. The American Cassinae. Mem. New York Bot. Gard. vol. 35(1).
- Isely, D. 1975. Leguminosae of the United States: II. Subfamily Caesalpinioideae. Mem. New York Bot. Gard. vol. 25(2).
- Leguminosae (Fabaceae). The University of North Carolina Press, Chapel Hill, North Carolina.
- Jackson, B.D. 1895. Index Kewensis, vol. 1. Clarendon Press, Oxford, England, U.K.

- Kartesz, J.T. 1988. A flora of Nevada. Ph.D. Dissert., University of Nevada, Reno, Nevada. ___. 1992. Synonymized Checklist of the Vascular Flora of the United States, Canada & Greenland, ed. 2 (in press). Timber Press, Portland, Oregon. ___ & K.N. Gandhi. 1989. Nomenclatural notes for the North American flora - I. Phytologia 67:461-468. _. 1990a. Nomenclatural notes for the North American flora -II. Phytologia 68:421-427. _. 1990b. Nomenclatural notes for the North American flora -III. Phytologia 69:129-137. IV. Phytologia 69:301-312. ___. 1991a. Nomenclatural notes for the North American flora -V. Phytologia 70:194-208. VI. Phytologia 71:58-65. VII. Phytologia 71:87-100. _. 1991d. Nomenclatural notes for the North American flora -VIII. Phytologia 71:269-280. published combinations under today's Code. Taxon 40:308-310. -. 1992. Nomenclatural notes for the North American flora -IX. Phytologia 72:17-30.
- Merrill, E.D. & S-Y. Hu. 1949. Work and publication of Henry Muhlenberg, with special attention to unrecorded or incorrectly recorded binomials. Bartonia 25:1-66.
- Nicolson, D.H. 1975. Isonyms and pseudo-isonyms: identical combinations with the same type. Taxon 24:461-466.
- Ockendon, D.J. 1965. A taxonomic study of *Psoralea* subgenus *Pediomelum* (Leguminosae). Southw. Naturalist 10:81-124.

- Palmer, E. & N. Pitman. 1972. Trees of Southern Africa, vol. 3. A.A. Balkema, Cape Town, South Africa.
- Soil Conservation Service. 1982. National List of Scientific Plant Names, vols. 1 & 2. U.S.D.A., SCS-TP 159. Government Printing Office, Washington, DC.
- Stafleu, F.A. & R.S. Cowan. 1976. Taxonomic Literature, ed. 2. vol. I: A-G. Regnum Veg. vol. 94.
- Stafleu, F.A. (Ch. Ed. Comm.). 1978. International Code of Botanical Nomenclature. Adopted by the Twelfth International Congress, Leningrad, July 1975. Regnum Veg. vol. 97.
- Tutin, T.G., et al. 1972. Flora Europaea, vol. 3: Diapensiaceae to Myoporaceae. University Press, Cambridge, U.K.